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Edited by WILLIAM HUNTING, F.R.C.V.S.

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"EXPERT" EVIDENCE.

There was a short discussion at the recent meeting of the Eastern Counties V.M.S. on the subject of evidence given by inspectors in cases of prosecution for cruelty.

That an imitation of expert evidence is frequently given is beyond doubt. When a prosecution for working a lame horse is undertaken without the assistance of a veterinary surgeon the evidence must include a diagnosis, and we know no more difficult matter in many cases, even to an expert. When a horse has a thickened tendon, a splint, and a sidebone, the amateur would probably fix on one of these apparent defects as the cause of lameness; but all three might be painless, and an undiscovered corn account for the unsoundness. Heat, swelling and pain are very easily mentioned, and one who does not know may honestly fancy he has detected them when he has decided upon the part he imagines is inflamed.

Some inspectors are quite content with their ability to diagnose. In a case reported this week from Dorset, the inspector, in reply to the Bench, said he "was not a qualified veterinary but he had had to pass examinations before being sent out to do duty." What these examinations may be we do not know, but it is quite certain that they cannot be of a nature to ensure a man's capacity for the diagnosis of lameness. Many a man has been convicted of cruelty on the evidence of lameness from spavin or sprained tendons when really the horse was suffering from an injury to the foot that gave no evidence of its existence when work was commenced.

Fortunately magistrates are in many cases quite capable of estimating the value of "expert" evidence given by amateurs, and they would be less inclined to accept it if veterinary surgeons would use their opportunities to show up the more flagrant cases. Quite recently at Stratford we heard the Chairman of the Bench stop an inspector with the remark—"you have a veterinary surgeon; you had better leave the expert evidence to him."

The R.S.P.C.A. inspectors are not the worst offenders. The London police have large powers over licensed carriages and horses—trams, omnibusses, and cabs. The owners of these horses may receive a printed notice saying that such and such a horse must not be worked again until seen by an inspector. This inspector is a policeman, and may have been a tailor before joining the force. Horses are daily stopped from work by these men, and there is no redress—no appeal. A little while ago they took to stopping bent-kneed horses, whether lame or not. One large company gave them notice that the next case would be sent to work and a prosecution defended. No more were stopped.

Surely such powers should be entrusted only to a veterinary surgeon? But the Commissioner of Police in London does not employ a veterinary adviser; he is satisfied with the cheaper article—a constable, dignified by the title of inspector.

FRACTURE WITHOUT EXTERNAL VIOLENCE.

In the proceedings of the Lincolnshire V.M.A., reported in *The Veterinary Record* of March 17, I notice a paper by Mr. James Smith on "Fractures," which treats especially those cases which are due, not to external violence, but to undue or misdirected muscular action. In this connection the following case may be of some interest.

The subject was a large fox-terrier, two years old, with strong and well-developed muscles.

The history is as follows. The owner, when out walking with the dog, was holding a stick above his head, and the animal, jumping into the air as high as he could, was trying to reach it—alighting, of course, on his hind feet. This was a favourite amusement of both dog and man, and went on for some little time on the present occasion, till, as the dog reached the ground after a jump no different from the preceding ones, the owner heard a sound which he described as "a loud crack." The dog remained on his feet, but immediately yelped and began to carry the leg.

When I saw the case I found a fracture of the lower third of the tibia, with complete displacement. The solution of continuity ran diagonally, backward and downward from the front of the bone to the back, where it came within an inch of the hock joint. The pointed end of the upper portion of the bone could be felt pressing against the skin, but fortunately had not penetrated it.

With the usual treatment the case terminated in a most satisfactory recovery, and my sole reason for recording it is that it is the only time I have seen a fracture, undoubtedly the result of muscular action, occur *in the dog*.

"CANINE PRACTITIONER."

FOUR CASES OF EQUINE TUBERCULOSIS ON ONE FARM.

By W. R. Davis, M.R.C.V.S., Enfield.

In *The Record* of December 10, 1904, I described a case of tuberculosis in a four-year-old mare which was destroyed, on account of the disease, about ten days after having given birth to a live foal.

The tubercular deposits both in the thoracic and abdominal organs were enormous and, as I stated in my communication, "it seems remarkable that an animal so seriously affected with tuberculosis and having an ovary destroyed by the disease should produce a live and apparently healthy offspring." The foal was brought up on cow's milk and did well all the winter and was turned out in the marshes below Chingford last spring. On Sept. 1 last, the owner of the foal, now a yearling, asked me to come over and examine it as there was a swelling on its navel, and at the same time to look at a six-year-old pony that was not doing well. I found that the yearling had an umbilical hernia rather larger than a cricket ball, but was otherwise looking well.

After examining the pony and hearing its history I gave the owner very little hope of its recovery and passed the opinion that it was affected by the same disease as the mother of the yearling had suffered from. This also was the owner's own opinion formed from the similarity of the symptoms presented in both cases.

Tonics were tried, however, until the 20th September, when I agreed to make a post-mortem on the pony and put a clam on the yearling's hernia. Very large tubercular deposits were found in the abdominal organs, the mesenteric glands and spleen being particularly affected. Tubercle bacilli in great numbers were demonstrated in scrapings from caseous glands. The yearling was operated on for umbilical hernia by clam, and made an excellent recovery. I saw the animal early in the winter (about November last), and it looked fat and vigorous. To my great astonishment I last week received from the owner of the yearling a message to say that the animal had been drowned in the marsh and that she must have been affected like her mother as her melt (which was sent for my inspection) had the same lumps on it.

I send you a photo of the spleen in which the characteristic tumour-like masses are well shown. While the mother of this yearling was ill the owner told me that her mother had died about two years ago, and that she had lumps in her inside. When we were making the post-mortem examinations both of the mare and the pony he said that the old mare was affected in just the same manner.

Here, then, are four cases of equine tuberculosis, a disease thought to be extremely rare, occurring in the course of little over three years among the stock of a man who never has more than about six horses at one time.

With regard to the etiology of the disease, the fact that the grandmother, the mother, and the daughter were all the subject of the malady might appear to point to its hereditary nature, but the yearling was reared on cow's milk, and besides its constant associate was a pony killed in the last stages of tuberculosis.

However the disease was contracted it certainly seems surprising that among animals living for the most part at grass, and therefore not exposed to so great risks of infection from a diseased companion, four cases of such a slow spreading disease as equine tuberculosis should have occurred in so short a time.

"GENERAL ANÆSTHESIA IN HORSES."*

By Capt. E. E. Martin, A.V.D., M.R.C.V.S.

By general consent chloroform is acknowledged to be the best general anæsthetic for the horse. Compared with æther and alcohol it is much quicker, less nauseating, and quite as safe. Sometimes a combination of chloroform with some narcotic such as morphia is tried, a full dose of the latter being given hypodermically a short time before the administration of the chloroform. The advantages of this combination are seldom very marked, in fact more often than not there appears to be increased excitement in the preliminary stages of anæsthesia, while the time required for getting under the anæsthetic is not appreciably shortened.

The preparation of the patient for the administration of the anæsthetic is very simple, it need differ in no way from the preparation for any operation requiring casting. My practice is to keep the animal short of food for twelve hours previous to the operation. For instance, if operating about 11 a.m., he gets nothing but a mash the night before, no hay being given, and if bedded on straw is either put on the rack for the night or muzzled; then early on the morning of the operation he gets a few quarts of water and a couple of handfuls of mash. I do no consider any lengthy period of preparation or even the administration of a dose of physic offers any special advantage.

I always cast the animal before administering the anæsthetic, it appears to me the only rational method. I consider the practice of giving chloroform before casting is dangerous both to the animal and to the operator and his assistants.

There are many methods of administering chloroform. Various muzzles, nosebags, and inhalers have been de-

* Read at the meeting of the Central V.M.S. at Red Lion Square, on Thursday, March 1st. (See p. 689.)

signed for the purpose, but special inhalers are by no means a necessity. Probably as good a way as any is by means of a flat sponge or a few folded pieces of lint or cloth, and a towel.

In this method the chloroform is poured on the sponge or lint and this is placed over the upper nostril (which has previously been smeared both inside and outside with vaseline). A towel folded several times is now wrapped around both nostrils, and by its means the amount of air passing into each nostril can be easily regulated.

The disadvantage this method has is that the sponge and towel has to be held the whole time, and this, especially when a man is operating single-handed, is a decided drawback.

For this reason one of the various muzzles present advantages. Theoretically Cox's muzzle is one of the best, and has this special advantage that it is simple and cheap. Personally, I have used chiefly the Carlisle pattern, and though by no means perfection it has always fulfilled my requirements.

We now come to a most important point, and one moreover on which there is frequently a great difference of opinion. What quantity of air should be given with the chloroform? Some authorities say that the chloroform vapour should be well diluted with air, others that the proportion should be about one of vapour to ten of air, though how they manage to arrange this with such mathematical accuracy is more than I can make out. Others again say that air should be excluded as far as possible. My own personal experience leads me to believe that the last is the correct view. It takes a very long time to get the patient properly anæsthetised if the vapour is much diluted, and especially do we find the first stage of excitement prolonged, and there is consequently some danger of the patient injuring himself in his struggles. The argument against allowing only a small quantity of air is that we run the danger of asphyxiating the animal. This danger I am inclined to think is exaggerated. I do not wish to be misunderstood on this point and for it to be said that I advocate no air being given. What I do say is that the amount given should be small. Unfortunately I cannot give the exact proportion because I know no way of calculating it, but may perhaps be best understood by saying that with the Carlisle muzzle, the strap around the upper part of the muzzle being drawn up firmly, after the chloroform is poured on the sponge and the tray put in its place, I wrap a towel twice folded round the lower part of the muzzle. The two folds of the towel are by no means impervious to air, but they hinder its free access. In the same way when using a sponge and towel, I close the free nostril with several folds of towel and place two folds over the chloroform sponge. When the patient is well under its influence the supply of air may be increased. Another benefit of getting the animal quickly under chloroform, which is obtained by giving very little air, is that he recovers from its influence very much quicker than when given slowly and well diluted.

It follows from the above that the time required to produce anæsthesia and the amount of chloroform necessary will vary very greatly with the method of administration, and more especially with the quantity of air given. Also, horses like human beings vary very much in the time it takes for them to go under; some struggle and fight violently against it, while others seem to resign themselves to the inevitable and quickly get under its influence. As a rule they take from ten to fifteen minutes getting under, and two or three ounces of chloroform are used, but if much diluted with air the time taken and amount of chloroform used will be much more than this. I think that more chloroform is used with the various muzzles (certainly the Carlisle muzzle) than with the simple sponge and towel. I usually start with half an ounce placed on the sponge and add two drachms every two or three minutes. The sponge should before use be dipped in hot water and then squeezed out as dry as possible, for the chloroform is given off better from the warm sponge. When once well under, a drachm or two from time to time keeps the patient under its influence.

The phenomena of anæsthesia are usually divided into four stages, they are (1) excitement; (2) narcotic; (3) anæsthetic; (4) paralytic.

The first stage lasts a few minutes, and during this period the patient shows considerable excitement and frequently struggles violently. The pulse and breathing are increased in frequency, the pupil is dilated, and occasionally the eye has a rotary movement. It is in this stage that asphyxia is said sometimes to occur, especially when the vapour is not well diluted with air. I have never seen it.

The second stage—narcosis, gradually follows on the first and is marked by a gradual relaxation of the voluntary muscles and a lessening in force, and frequency both of the pulse and respiration. General sensibility is gradually impaired but the reflex functions are not apparently affected. This stage lasts usually about seven or eight minutes and almost imperceptibly passes into the next.

Third stage—anæsthesia. This is marked by complete muscular relaxation, unconsciousness, and insensibility. The breathing is regular and the rate about normal, the pulse somewhat quicker and fuller than normal. The pupil is contracted, and the corneal reflex is impaired, and in some cases lost entirely. I would like to specially point out here that I often find complete insensibility and unconsciousness, or in other words complete anæsthesia, for some time before the corneal reflex is entirely lost. The corneal reflex is generally recommended as a sure index of complete anæsthesia, but I am quite satisfied that there may be perfect anæsthesia with impairment only and not total loss of the corneal reflex. In fact I regard the complete muscular relaxation, regular breathing, and contracted pupil as better guides of unconsciousness than the corneal reflex.

This stage of anæsthesia may be prolonged for a considerable period by the continued administration of small doses of the anæsthetic. The longest period I remember having kept an animal under its influence is one hour and a half, and no untoward symptoms were shown.

The fourth stage—paralysis, is marked by interference with the centres for respirations and later those of cardiac action. It may be taken as absolutely settled that it is always the breathing that is first affected. Sometimes the breathing simply gets very shallow and irregular, once or twice however I have seen the typical Cheyne-Stokes respiration, in which breathing stops for a short period and is followed by feeble and short inspirations gradually increasing in strength until each respiration seems carried to its highest pitch, then gradually dying down until it stops for a short time, to commence another similar period.

Fortunately this paralytic stage is very seldom reached in horses, and even when it is, if we obey one of the principal rules of anæsthesia, which is "watch the breathing," we need not have much fear of accidents. Directly the breathing gets shallow or irregular if the anæsthetic be removed the respiration gradually gets regular again. Even if the breathing is actually allowed to stop for a short time without being noticed hope need not be abandoned, as artificial respiration is usually successful in starting natural breathing again so long as the heart has not stopped. However, I will not go further into this question for fortunately I have never had to resort to these extreme measures and so cannot speak from experience.

The return of consciousness from the anæsthetic state is usually uneventful. The chloroform is removed im-

mediately the operation is concluded, and a plentiful supply of fresh air allowed. I think it well to leave the hobbles on for some little time and to allow the patient to come round of his own accord. It is a mistake to hurry, for if hurried he is liable to get up before he is able to stand properly, and may fall and injure himself. It is well to have a man on either side ready to steady him and give some support if necessary.

The time taken to recover consciousness varies very much: the longer the animal has been under the longer he takes recovering, and, as I have mentioned before, the longer he takes to go under the longer he takes to recouer. Generally speaking it takes from ten minutes to half-an-hour before he is able to get up. After getting up he is rubbed down and walked quietly to box, and is usually only too eager for a drink of water and a small mash. After effects are usually conspicuous by their absence, and I do not remember having seen anything like nausea.

The dangers of anæsthesia.—These usually are far too greatly magnified. Without going so far as to say that accidents never happen, I can certainly say that they happen in only an extremely small proportion of cases if the chloroform is given in a rational manner. I have only had experience of two cases that have died from causes that might be attributed to the anæsthetic: one of these occurred in India, when the horse died three or four days after the anæsthetic, from pneumonia. I am not by any means sure that the chloroform was entirely to blame in this case. The second case occurred a year or two ago. The operation was for the removal of a very large schirrous cord, and the animal was under the anæsthetic for over an hour. At the end of the operation, after the chloroform had been removed the breathing became very irregular and stopped for several times. However, under simple stimulation he got up, and had an attack of "staggers" and went down again. He was then kept down for some time before being allowed up. Then, when he did get up was very staggery. He was taken to his box and though still appearing uneasy and not very sure of his legs I thought he was progressing favourably, but five or six hours after he succumbed. This is the first case of the sort I have met and I am inclined to think it is a case of what is sometimes called "Chloroform dementia."

These two cases are the only ones in my experience where bad results followed chloroform.

During the two years I was Professor at the Lahore Veterinary College over 1000 horses were anæsthetised, at the majority of which operations I was present. Since then, though not dealing with anything approaching those numbers, I have given chloroform for almost every operation for which it was thought worth while to cast the horse. I have not had a single case of an animal dying while under its influence.

Dollar* reports four hundred cases with only two fatal results.

Möller* reports five hundred cases with no accidents.

Surely these numbers speak for themselves, and in the face of them it is difficult to imagine the remarks on the accidents of anæsthesia that were made in a paper on "Accidents and sequelæ of Surgical Operations," by an American veterinary surgeon and printed in *The Veterinary Journal* for November last. These remarks, of which I quote a few, seem to disclose an amount of ignorance quite as startling as it is highly discreditable.

"The death rate from general anæsthetics in animals is high. While there are no satisfactory statistics obtainable, it is evident, from reports one gleans here and there, that the deaths are much more common than they should be, in view of the few animals anæsthetised. The fact that there are few expert veterinary anæsthetists accounts for the numerous deaths. Veterinarians, as a rule, have very poor confidence in themselves as administrators of anæsthetics. . . . . To prevent death from a general anæsthetic requires experience." And so on. Fortunately the writer seems to realise where the real trouble lies, for he goes on to say, "I have had the privilege, during the past year, to see more than 500 dogs anæsthetised with chloroform by a medical student acting as an assistant in a large laboratory without a single death, and many of these were kept under the influence as long as seven consecutive hours. This fact should be a valuable hint for us to practise the art in order to become proficient, and thus gain confidence in our ability to administer anæsthetics without a great degree of danger. We cannot become proficient in this line by allowing anæsthesia to become more and more obsolete in our profession, as has been the case up to the present day."

The last paragraph alone would, I think, have justified the writer in concluding that, properly administered, the use of anæsthetics is attended with little risk.

The advantages of the use of Chloroform.—It enables us to immobilise the seat of operation and thereby render operations possible which otherwise would not be.

It prevents injury to the animal, and also protects ourselves against injury.

By the relaxation of the muscular system we are able to carry out manipulations which we otherwise could not perform.

On humane grounds it is indicated in every painful operation.

I think few will deny the abstract proposition that it is our duty to cause our patients as little suffering as possible; nor will they deny that the use of an anæsthetic in a painful operation certainly saves the animal a great deal of suffering. If these two propositions are admitted it follows that the man who performs a painful operation without an anæsthetic is causing unnecessary suffering.

The disadvantages alleged.—That its administration is frequently attended with danger to the animal. That it is expensive. That it greatly lengthens the time of an operation by adding to the actual period of the operation the time necessary for the animal to be put under and recover from its influence. That it is very difficult for the surgeon working singlehanded to attend to the anæsthetisation of the animal at the same time as he performs the operation. That the administration of the drug causes as much distress as the operation itself would.

I have already dealt with the question of danger so will not say anything further on that point. The next question is that of expense. Personally, I do not see much difference in the expense of an operation under chloroform or without, and think it may be laid down as a general principle that the animal worth operating on is certainly worth chloroforming. The actual expense of the drug itself is very small, and the only other question of expense is that of the extra time taken by the operation and the trained assistance necessary.

First, with regard to time. The time occupied in inducing and recovering from anæsthesia certainly does add considerably to time taken by an operation, but as a rule the time occupied in inducing anæsthesia may be put to good use in preparing the field of operation and in the preparation of the surgeon's hands, and while the patient is recovering from its effects there are always instruments to be collected, cleared, and put away, and such-like jobs, so that the time need never be considered lost.

The next consideration, the question of trained assistance, is probably the most difficult one for the general

* Dollar's Practice of Veterinary Surgery, vol. I.

practitioner. There is no doubt that it is extremely difficult to perform an intricate operation and superintend anæsthesia at the same time. Many practitioners keep a qualified assistant, so to these there should be no trouble in arranging for some one to superintend the administration of the anæsthetic. Those who have no qualified assistant usually have an intelligent foreman or dispenser, and with a little training such men get quite capable of acting as anæsthetists, while of course one can always call in the services of brother practitioner.

The last disadvantage that I mentioned—that the administration of the anæsthetic causes as much distress as the operation itself, is one that is generally urged by the man who has had little experience in anæsthesia. It is somewhat on a par with the statement frequently made that the animals do not feel in the same way as human beings. Neither, I take it, have any foundation in fact, but are somewhat difficult to refute owing to the impossibility of bringing direct evidence to the contrary.

In conclusion, I would like to emphasise the point that the breathing is the principal thing to be watched during the administration of an anæsthetic, and anything that interferes with its action, such as tight straps around the chest, or onlookers resting or pressing on the chest, must be carefully guarded against.

EASTERN COUNTIES' VETERINARY MEDICAL SOCIETY.

The 30th annual meeting was held on Tuesday, Feb. 20th, at the Royal Hotel, Norwich, the president, Mr. A. S. Auger, of Saxmundham, occupying the chair. Amongst those present were Professor Pritchard, London; Messrs. A. Holl, New Buckenham; H. F Downe, Diss; G. Hunting, Stalham; J. Pollock, Norwich; R. Howard, Thetford; R. Sooby, King's Lynn; H. Buckingham, Harleston; G. Mayall, Norwich; W. M. Reeman, Bury St. Edmund's; T. Barcham, Paston; J. E. Kitchen, London; S. Smith, Lowestoft; F. M. Wallis, Halstead; F. B. O. Taylor, Weston; H. L. Roberts, Ipswich; J. Bee, Fakenham; J. Hammond, Bale; and the Hon. Sec., H. P. Standley, Wymondham.

Letters of regret at inability to attend were received from Sir John M'Fadyean, Prof. J. Penberthy, Messrs. C. C. Nesling, J. F. Thurston, J. Godbold, P. Turner, W. Shipley, J. F. Simpson, J. D. Overed, E. H. Leach, N. Almond, E. W. Wright, E. Margarson, P. J. Mullane, A. H. Santy, W. Bower, J. K. Gooch, T. E. Auger, and J Cleveland.

The members took lunch together, and then commenced the business agenda.

The accounts, audited by Mr. H. Buckingham and Mr. W. M. Reeman, were presented by the Hon. Secretary, and these showed that the year was commenced with a balance of £21 3s. 7d. Fifty-two subscriptions were received from members, of which nine were arrears, and at the end of the year the balance in hand was £17 13s. 11d. The balance sheet was adopted.

Mr. H. L. ROBERTS, of Ipswich, was proposed for election by Mr. F. B. O. Taylor, who said he was formerly a member of the Society when practising at Diss, and now that he had come back to the district they would be very glad to have him as a member.

The PRESIDENT seconded, and this was agreed to, and it was resolved that under the circumstances no entrance fee should be charged.

Mr. ARTHUR BURGON, of Haverhill, and Mr. HENRY GRAY, of London, were nominated by the Hon. Sec. and seconded by Mr. W. M. Reeman, and the nominations were accepted.

ELECTION OF OFFICERS.

Mr. S. Smith proposed that Mr. HERBERT BUCKINGHAM, of Harleston, be President for the ensuing year. Mr. A. Holl seconded, and this was carried unanimously.

The PRESIDENT-ELECT thanked the members and assured them he would do the best he could for the Society during the coming year. He preferred, he said, that Mr. Auger should continue in the chair for the annual meeting.

Vice-Presidents.—The Chairman said it was difficult for him at Saxmundham to get away to attend all their meetings and someone else should be elected in his place who was more advantageously situated.

Mr. W. M. Reeman said he laboured under the same disadvantages, at the same time he had all along been breaking the rules of the Society by holding two offices, Vice-President and auditor. (Laughter.)

Mr. F. M. Wallis said he lived further off than anybody. (Laughter.)

Mr. Taylor proposed that the Vice-Presidents be Messrs. A. S. AUGER, F. M. WALLIS, and W. M. REEMAN, and this was carried.

Committee.—Mr. Reeman proposed Messrs. T. E. Auger, J. K. Gooch, R. Howard, W. Shipley, W. F. Howes, G. Hunting, J. D. Overed, and S. Smith. Mr. Wallis seconded, and this was carried.

Auditors.—Mr. H. P. Standley proposed Mr. J. Pollock and Mr. P. Turner. This was seconded by Mr. J. Bee, and adopted.

Hon. Sec.—Mr. A. S. Auger, in moving the re-election of Mr. STANDLEY, said he was entitled to his praise and gratitude for the manner in which he had supported him during his year of office. The new President, he was confident, would receive equal support from him.

Mr. Buckingham, in seconding, said no one had worked harder for the Society.

The resolution was carried with applause, and Mr. Standley again accepted office.

CHARITABLE SUBCRIPTIONS.

The HON. SEC. said that as Mr Shipley was absent it would be better to defer the question of a donation to the Victoria Benevolent Institution. He moved that two guineas be voted to the Agricultural Benevolent Institution. Also that one guinea subscription to the Royal Institute of Public Health be paid. Mr. Taylor seconded, and this was agreed to.

COUNCIL CANDIDATES.

The HON. SEC. said he had received the following letter from the Yorkshire Veterinary Medical Society:

"Dear Sir,—At our last meeting it was decided to nominate Mr. A. W. Mason, of Leeds, as candidate for election to Council R.C.V.S. and also to co-operate with the Lancashire, Eastern Counties, and Liverpool Societies as last year in joint circular, etc., and if agreeable to the Societies named.

J. CLARKSON, *Hon. Sec.*"

A letter from the Lancashire Veterinary Association was received as follows:—

"Manchester, Jan. 25.

Dear Sir,—Our Association have decided to nominate Messrs. Abson and Sumner as candidates for the forthcoming election, and also to amalgamate with the other Societies as last year to issue a joint circular.

G. H. LOCKE, *Hon. Sec.*

The HON. SEC. said both had been brought before the Committee.

The CHAIRMAN said that Mr. W. Bower, of East Rudham, had been prevailed upon to stand again as their candidate, and if he was returned they would be

very fortunate in having him on the Council together with Mr. Shipley as their representatives.

On the proposal of the Chairman, seconded by Mr. Bee, it was resolved to co-operate with the other Societies to secure the return of Messrs. Abson, Bower, Mason, and Sumner.

The Sale of Instruments.

The Hon. Sec. read the following he had received under date, Sept. 23, 1905:

"Red Lion Square, London.

Dear Sir,—May we be permitted to draw your attention, and through you that of the Eastern Counties Veterinary Society to the fact that under no conditions do we supply farmers, herdsmen, or the outside public with milk fever apparati, castrators, blacklegine, etc., and this week after week, month by month, and quarterly is boldly announced in all our advertisements. We continually have applications from the outside public for all these things and decline to supply. As this rule appears to have escaped the notice of your members we enclose the advertisements referred to.

C. H. Huish & Co."

The Hon. Sec. explained that at the last meeting complaint was made that Messrs. Arnold & Sons were willing practically to supply the outside public with instruments and apparati for veterinary purposes. Some comments were made and it was owing to this probably that Messrs. Huish had written. They should now be thanked for their letter.

The Chairman said he considered this the proper step to take. Messrs. Huish had shown every courtesy and acted in the interests of the profession. They deserved the support of the members in return.

Mr. Howard moved a resolution to this effect which was seconded by Mr. Smith, and carried.

Some discussion arose as to the terms in which Messrs. Arnold should be approached, and it was eventually agreed, on the proposal of Mr. Wallis, seconded by Mr. Reeman, that it should be pointed out that other firms of instrument makers considered the interests of the profession, and asking whether Messrs. Arnold and Sons could not see their way to do the same.

Evidence by R.S.P.C.A. Inspectors.

The Hon. Sec. read the circular letter from the Central Veterinary Medical Society.

Prof. Pritchard said he would like to know what evidence had given rise to this statement. He had been connected with the R.S.P.C.A. for forty years and knew the officers, but he was not aware that they appeared in courts of law as experts. He had no knowledge of anything of the kind.

The Chairman said he could not give any case. If there was any case in his neighbourhood it was his lot to be called in as an expert. He believed this practice prevailed generally. If the practice alleged existed anywhere it was certainly to be deprecated.

Prof. Pritchard: And by no one sooner than I would.

Mr. Taylor suggested that the letter should lie on the table.

Mr. Mayall said he would like to ask Prof. Pritchard what happened in a court where the R.S.P.C.A. inspectors gave evidence and no veterinary surgeon was called. On such occasions did the inspectors give expert evidence or not? There are cases where the inspectors are not backed up by veterinary surgeons, and there are cases in which solicitors appear on each side, and no veterinary surgeon is called.

Prof. Prichard replied that the evidence of the inspectors was as to facts. He had never heard an inspector get into the box and say anything beyond that he has seen a horse lame, and that he believes he is lame from this, that, or the other. It is simple evidence as to facts and is not taken as scientific.

Mr. Mayall asked Prof. Pritchard whether he thought the inspectors were capable of detecting ringbone or sidebone.

Prof. Pritchard said he might just as well be asked what he thought of the ability of the gentlemen in that room. If an inspector goes into Court and says a horse has ringbone the lawyer on the other side can ask him why he thinks it is ringbone.

Mr. Mayall said the magistrates would not know.

Prof Pritchard said that perhaps he had better leave Mr. Slocock to prove the statement himself, and he would withdraw his remarks.

The Hon. Sec. said he thought there were cases of the kind. He had been in Court and heard R.S.P.C.A. inspectors give what may be called expert evidence, such as only a veterinary surgeon should give. The inspectors stated they examined horses, found heat, strained tendons and certain other ailments. This could only be considered expert evidence, and he did not think the inspectors were qualified to give expert evidence as they had done over and over again.

Prof. Pritchard said that in the case of another Society, that for the prevention of cruelty to children, one of its inspectors might go into a room and see a child starving. When he went into Court he would say the child was starving and give his reasons. That might be called expert evidence but it was not less expert evidence than what was complained of on the part of the R.S.P.C.A. inspectors, but he certainly did not wish it to go forth that he was a defender of the Society.

Mr. Reeman said in his district there was an inspector who, in his own mind, thought he knew a good deal more than most veterinary surgeons, and he had heard him give evidence describing ringbones, contracted tendons, sidebones. He considered this expert evidence. In many cases the inspector did not employ a veterinary surgeon at all, and he was sorry to say the magistrates accepted his evidence.

The Chairman said that this was certainly detrimental to the interests of the profession.

The Hon. Sec. moved that the Society support the Central Veterinary Society in the action it had taken.

Mr. Mayall said he did not altogether like the wording of the resolution. It stated there that evidence "accepted as expert" was given by the inspectors. It was "accepted as expert" by the magistrates, but was it expert or not? That was the question. A Society inspector may go into a Court and say distinctly that a horse is lame from ringbone or sidebone. Most veterinary surgeons would acknowledge it was not easy to say whether a horse had ringbone or sidebone, and it must be doubly difficult for any one lacking the qualifications of a veterinary surgeon. No doubt Mr. Slocock had in mind evidence that had come under his own observation, and a good many veterinary surgeons could back him up in it. A good deal depended upon the tact of the officer, but in Yarmouth, for a long time, the officer had taken his cases into Court without anyone appearing for him, and it was only quite recently that Mr. Shipley had done so. Only good feeling and the best of feeling should exist between the R.S.P.C.A and the veterinary profession. It was a Society engaged in a very good and useful work which veterinary surgeons would not like sometimes to do themselves, but a great deal depended on the tact shown by individual inspectors. In Norwich there was a splendid man gifted with tact, discretion, and diplomacy who did not bring any cases without good reason, but he hardly knew one case in which he had not gone into Court without being backed up by the profession. Mr. Pollock, Mr. Low, Mr. Howes or himself had appeared for him. It was a good thing that an inspector did not bring all his cases to one veterinary surgeon. (Laughter.) In Norwich he

took them all in turn. (Laughter.) This was certainly the thing that should be done, for if one man was known as the Society's veterinary surgeon he was going to be in bad odour in some quarters and lose a lot of custom through it. (Laughter.) Subject to these views he could second the resolution, but it was aimed at the magistrates, and he would have preferred that it should be aimed at the R.S.P.C.A. for giving expert evidence by its inspectors.

The resolution was then carried.

A Question of Etiquette.

The Hon. Sec. submitted the series of resolutions from the Yorkshire Veterinary Medical Association. [These appeared in our issue of February 3rd, p. 543].

The Chairman said it was regrettable that the veterinary profession had not a better standing before the public, and this Cardiff case was to be deplored. They would all express their disapproval of such an appointment by supporting the resolutions of the Yorkshire Society.

Mr. Smith said that he had just learned that a member of the Eastern Counties Society had accepted the Cardiff appointment under these conditions.

The Hon. Sec. said it was the fact.

Mr. Smith said it seemed extraordinary to condemn it when one of their own members had accepted the office. He understood it was Mr. P. J. Mullane, of Bungay.—Mr. Wallis said it did not matter much what they did under such circumstances.—Mr. Mayall said it was one reason why their resolution should be all the stronger.—Mr. Kitchen said that if a veterinary surgeon chose to apply for such a position and take it under such conditions it was his look out rather than theirs.—The Chairman said they could signify their approval of the Yorkshire Society's resolutions.—Mr. Smith said it would practically be a vote of censure on one of their own members.—The Hon. Sec. said the point was that the veterinary profession was put in an inferior position to the medical profession.

Mr. Reeman observed that if one of their members chose to do something which they considered derogatory to the profession the Society should not be held to have backed him up in anything of the sort. He considered the dignity of the profession was seriously infringed by an appointment such as this at Cardiff. There might be other places where it would be attempted and they could not do wrong by supporting the Yorkshire Society's resolutions.

The Chairman said they were quite unanimous that it was derogatory to the profession an appointment should be made on such terms as this at Cardiff, and he therefore invited the members to indicate if they desired to support the Yorkshire Society's resolutions.

Every hand was held up in favour of the resolution.

Mr. Shipley had interested himself in a proposal to invite the National Veterinary Association to hold its 1907 meeting in the Eastern Counties, but he was unable to attend through illness.

On the proposal of Mr. Wallis, seconded by Mr. G. C. Hunting, the matter was postponed.

Market Attendances.

Mr. Shipley had notified his intention to move a resolution as to the new regulations regarding the attendance of veterinary inspectors at public sales.

Mr. J. Hammond said they considered it very humiliating that when making their visits to markets they were obliged to send a certificate signed by a policeman or auctioneer showing that they had attended, and unless they did this they had some trouble to get their money. He had been an inspector for 40 years and had seen the stamping-out of cattle-plague, rinderpest, foot-and-mouth disease, pleuro-pneumonia, and pretty well swine fever, and had been trusted through all that, but now the auditor was not willing to allow the half-guinea unless they had their attendance certified to show that they had not defrauded the county. He had had an interview with the clerk to the authority who said that if a certificate was not sent in there would be a squabble about payment, but he hoped to be able to make an alteration soon.

Mr. Reeman said he had no trouble of this sort in Suffolk.

Mr. Wallis said he had none in Essex. Some action should be taken to show that they did not mean to be sat on, at least not more than they could help. (Laughter.)

Mr. Taylor moved "That the Eastern Counties Veterinary Medical Society consider it humiliating that veterinary inspectors employed by the Norfolk County Council should be required to send in certificates of their attendance at local markets signed by auctioneers." It was not done in other counties, he said, and they hoped the regulation would be withdrawn without delay.

Mr. Barcham seconded, and this was carried.

Report of Special Committee.

A meeting of the Committee of the Eastern Counties V.M.S. to consider its position was held on Friday, Oct. 27th, at the Royal Hotel, Norwich. The President, Mr. A. S. Auger, took the chair, and the members present were Messrs. W. Shipley, J. D. Overed, G. Hunting, J. K. Gooch, R. Howard, T. E. Auger, H. Buckingham, and the Hon. Sec. Mr. H. P. Standley. Mr. Morton Wallis and Mr. S. Smith wrote regretting their inability to attend.

Mr. Shipley called attention to the difficulty experienced in getting members to attend the meetings of the Association, and their reluctance to take a share in the work it entailed. Too few of the members seemed to have its real interests at heart. Unless some suggestions could be made to the next annual meeting that would ensure an improvement the Society ought to be dissolved, much as he would regret to see it broken up. As an instance of the present apathy Mr. Shipley cited the fact that only 25 veterinary surgeons in the Eastern Counties took the trouble to attend Prof. M'Fadyean's last lecture on Bacteriology, and of these no fewer than 15 were his guests. Their Society had numbered 56 members, and it was not fair that the President, Secretary, and a few other members should have to bear the whole burden of working it. To test the question he moved that the Society be dissolved as the recommendation from the Committee.

Mr. J. D. Overed, who observed he could not second this, said they always saw the same faces at their meetings, and the same members were continually absent. They had five members in Norwich, but not one was present. He suggested that each member should be written to and invited to express his opinion whether the Society should be continued. Then they would know what course to adopt. If members would consent to attend better and to assist by introducing papers, then the Society would have better prospects of usefulness.

Mr. T. E. Auger seconded *pro forma*.

Mr. J. K. Gooch moved as an amendment that the Society be continued, and that every effort be made by all the members to carry on the business of the Society in a better way than they had done in the past. He admitted there had been bad attendances, but it could not be due to lack of interesting papers because they had had some first class discussions, but every member ought to have attended Prof. M'Fadyean's splendid lectures. One excuse was that the railway facilities were bad. He favoured obtaining an expression of opinion from all the members, and if it was hostile he would say dissolve the Society at once. If a good percentage would promise to

attend regularly then the Society ought to be continued.

Mr. G. HUNTING seconded the amendment. No doubt he said they all wanted waking up, and a circular letter might produce good results.

Mr. SHIPLEY pointed out that if the Society was to be continued some suggestions should be made as to how it was to be effectively carried on. He desired to say in answer to Mr. H. L. Roberts' letter in *The Record* that if any reflection was cast upon their officers he had the utmost sympathy for their Secretary, who, with the President and every member of the Committee, had worked hard for them.

The PRESIDENT warmly praised Mr. Shipley's services to the Society, and said it had his strongest sympathy and goodwill. His own experience was that they gained far more practical knowledge and useful information than they could gather by searching the text books. Their meetings were most valuable, and every member should support the Society to the utmost.

Mr. G. C. HUNTING said he thought an attendance of fifteen should not be grumbled at. Other Societies appeared to get from eleven to twenty. If their members only attended once a year it would ensure an attendance of twenty at each meeting.

The amendment was put, when six votes were recorded for, and two against.

The PRESIDENT declared the amendment to be carried, and the proposition thus fell to the ground.

Mr. SHIPLEY remarked he could not say he was disappointed at this result, but it was now for those who desired the Society to continue to bring forward some practical suggestions to this end. They must show to the next general meeting why the Society was to be continued, and there were certain difficulties they must overcome. They had to find a new President, to decide where they would meet and how often, and who was to read papers.

As a result of their further deliberations, the Committee presented the following recommendations:—

1. That the Society be continued, and that all the members make an effort to attend more regularly.
2. That Mr. H. Buckingham be President for the ensuing year.
3. That no annual dinner be held except in the discretion of the Committee.
4. That three meetings be held in each year, in Norfolk, Suffolk, and Essex, a luncheon to precede each.
5. That the Committee arrange if possible for one of the three meetings to be of a social character.

The Committee have also to report that two members, Mr. Gooch and Mr. Overed, promised to introduce papers for discussion.

The PRESIDENT, in closing the meeting of the Committee, said he felt that all of them would put all the life and strength they could into their old Eastern Counties Society, and they were really very much indebted to Mr. Shipley for the energetic way in which he had stirred them up. He looked forward to quite a new era of usefulness for their Society.

The reading of this report was received with satisfaction and the Chairman observed it would be a matter of the greatest personal regret if anything like a break-up of their Society were to take place. Their meetings were very profitable and he always enjoyed them. He could hardly pay sufficient tribute to Mr. Shipley for the support he had given to the Society. It had been particularly valuable during his year of office, and made particularly pleasant what otherwise would have been a severe strain. He hoped what appeared in the report would appeal to them all and stir up fresh enthusiasm. One difficulty had been that of papers, but now they were in a very fair position, as two had been promised and a third should easily be obtainable. He moved that the recommendations of the Committee be adopted.

Mr. REEMAN, who seconded, remarked that there was every reason why the Society should be carried on, for the attendance compared very favourably with that of larger societies in other parts of the country. They also had a good balance in the bank. They might dispense with the annual dinner; it was a farce, because members had to leave to catch trains before they were barely through their soup, and that made it a waste of money.

Mr. WALLIS said he was thoroughly in sympathy with the report of the Special Committee, which was a very good one. He was one of those unfortunate diners who had to pay 7/6 for his dinner and had to leave as soon as the soup had been served. If they could not ensure a good muster it was better to drop the dinner. He would be very sorry to see the Society broken up, and with all the recommendations of the Committee he thoroughly agreed. He lived as far off as anybody, but they must all wake up and do the best they could to make their Society strong and flourishing.

The resolution was then carried, coupled with an expression of thanks to the Special Committee.

Mr. BEE said he would be willing to contribute a paper. (Applause.)

PARLIAMENTARY REPRESENTATION.

The CHAIRMAN reported on his attendance at the Manchester Conference on Parliamentary Representation, at which he was accompanied by Mr. Shipley and Mr. Bower. They had a most hearty reception from the Lancashire Association and all the arrangements were admirable. Mr. Sumner was an exemplary chairman. The proceedings were got through to the satisfaction of nearly all the delegates though some wished for a little more information as to the scheme to be brought forward, but they met first to decide the principle. It was unanimously resolved that it was desirable the interests of the profession should be represented directly or indirectly in the House of Commons. Then there was a discussion as to ways and means, and ultimately the delegates resolved themselves into a Committee for the purpose of securing the support of the various societies, and will meet later in some central place such as Rugby. The financial question might be a difficulty, but he believed the proposal would be carried through.

On the proposal of Mr. Wallis, seconded by the Hon. Sec., Mr. Shipley, Mr. Bower, and Mr. Auger were appointed the Society's delegates.

NEXT MEETING.

Mr. WALLIS proposed that the summer meeting be held at Colchester. This was seconded by Mr. Howard and carried.

"RIBS."

By Professor PRITCHARD.

Prof. PRITCHARD began on the anatomy side. What is a rib? Is it one of a number of bones that form the walls of the chest, not the whole but to a very considerable extent. Each is composed of a head, tubercle, shaft, and an inferior extremity. Whether we examine a rib in front of the chest, in the middle, or at the posterior part we find all these characteristics. Perhaps I should draw your attention to the primary division of the ribs and ask you to recollect that there are what we call true and false ribs. There is another term given to a rib which does not occur in every animal, what is called a floating rib. A true rib is one that is connected by its cartilage to the sternum, while the false rib, although it has an inferior extremity, is only connected by fibre elastic material to the cartilages of the other ribs.

To begin with the head. This is a portion of the bone which is fixed in between two vertebræ, and although fixed there it has synovial articulations with those two vertebræ, the anterior articulation of the head of the rib is in apposition with the posterior part of the body of the vertebra in front of it and *vice versa*. It is fixed in and held there by several very strong ligaments, one of which a little below the head we call the stellate, because it has three parts. One portion goes to the vertebra in front, another to the vertebra behind, and the third portion goes to the intra-vertebral cartilage. There are other ligaments as strong as that. A little below the head of the bone is a rather constricted portion called the neck. A little above and behind that is the so-called tubercle so attached that scarcely any force can move the bone beyond a certain distance upwards however violent the respiration may be. This tubercle by being pushed up against the transverse process resists almost any force that can be brought to bear upon it. Below these portions is the shaft. By the expression shaft is commonly understood a long round bone divided into a shaft and two extremities. Although a long bone this shaft does not belong to this class of long bones, for it has no medullary canal in it. It is convex on its outer surface and concave on the inner. Taking it from the upper extremity to the lower, at whatever part of the chest, it is convex. This convexity is not the same in all of them. The first rib, for example, is almost straight. They gradually increase in convexity and length until about the eighth or ninth, and then they gradually become shorter. Although they become shorter the convexity of the whole length does not decrease to any extent, and the last rib is about as circular as any. The heads and tubercles are better developed in the first few ribs than in any others. The tubercle in the first rib is larger than the head. At the inferior extremity of the ribs is a piece of cartilage which is called the cartilage of elongation. Those belonging to the true ribs are attached to the sternum by synovial articulation. In the horse there are eight of these and ten false ribs. In the ox both ends of the cartilage are synovial, and of course there is a reason for this. The ox when reclining is on the underneath surface of the chest, not like the horse on the side, and it is necessary there should be more facility for the ribs to move during respiration and this to a great extent is obtained by the synovial articulations at each extremity. At least that is one method of obtaining it. In regard to differences in the number of ribs, there are true and false in every animal that we have to deal with. Man has twelve ribs on each side, seven of them are true and the others are false. In the horse eight are true and ten false. In the ox there are thirteen ribs on each side, eight of them true and five false, the sheep the same. The pig has fourteen, seven of each kind; the dog has thirteen, nine of them true ribs and four false.

As to the construction of the ribs, if a piece were sawn out of the central portion of the shaft of the rib and a longitudinal section made, a modification would be found of what is termed cancellated structure, the interspaces of the lattice work being larger. The marrow or medullary matter is red. In the ordinary "marrow bones" the medullary matter has a yellowish colour. The sternum or breast bone, to speak of the chest as a whole, in the horse, ox, sheep, pig, and dog is on the underneath part of the body; in the human subject it is in front. In the horse it is made up of a number of pieces of bone, united by cartilaginous material. On the underneath anterior half of it is a piece of cartilage which resembles the keel of a boat, hence termed carina-form, this cartilage would be sadly in the way and very awkward for the ox, hence we find instead in this animal and all others that recline on the lower portion of the chest flat, that instead of the whole of the pieces of bone being united by cartilage, the first piece is united to the second by synovial articulation. This first piece is termed the manubrium from *manus*, the hand; it is supposed to enable the animal to turn its head towards the posterior part of the body with more facility. The ox can lick his quarters with greater ease than the horse, which is said to be due to this arrangement of the first and second pieces of the sternum. At the back of the sternum is another piece of cartilage called ensiform or xiphoid cartilage, rather an important factor in the animal economy, not only of the ox but of every animal. With the whole of the ribs, the spine, and sternum, the thorax appears as a truncated cone, narrow in front, larger in the centre, and broad behind. Its roof is formed by the vertebræ, its floor by the sternum, and part of the roof and walls of the lateral portions by the ribs. At the anterior portion the chest wall has an opening in it somewhat triangular in form, formed by the first two ribs, the superior border of the sternum and the first dorsal vertebra. It is a very important opening allowing for the passage of the trachea, œsophagus, some of the most important arteries arising from the anterior aorta, and other structures. The posterior opening is very large and its borders slope in a downward and forward direction. In the living animal it is very nearly completely closed by the diaphragm. This margin of the chest is formed by the last dorsal vertebra, the last two ribs, and the cartilage of nearly all the false ribs. There are several structures that pass through the diaphragm, among others the posterior aorta, œsophagus, posterior vena cava, and important nerves.

As to the functions of the ribs, or some of them; they give form to the chest. While they looked to every part of the skeleton to give form to a greater or less extent, he knew of no part where the form of the animal was more marked out by bones than it is by the ribs. Without its skeleton of course an animal would be a mass of varying shape. Notwithstanding that there are parts of the animal that do not get much of their form from the skeleton. For example, a horse's hind quarter. It is true that the pelvis to some extent lends to its form, but the bulk of the form is due to the muscles and not to the bones. Take the shoulder, arm, or thigh. The arm is little like the radius, the thighs very little like the tibia. If you take the head it may be admitted the bones form the shape to a very considerable extent, but even then it was not a greater indication of shape than you get by the ribs—it is one of their functions, a minor one perhaps compared with some.

They form to a great extent the great cavity which lodges the heart and lungs besides other very important organs that need not now be mentioned. There is the pleura, lining the internal surface of the chest and the external surface of the lungs, and the two are in apposition so long as health exists. The heart and lungs are lodged and defended by the ribs so far as the skeleton is concerned. Not only does it form the chest cavity, of course assisted above and below by the vertebra and sternum, directly, but by muscles which are attached to the ribs it goes far to form the cavity of the belly. There is not one of the abdominal muscles that is not directly or indirectly connected with the ribs. For example, in addition to the oblique muscles the rectus abdominis—the muscle on the underneath surface of the belly, and the transversalis are all attached to the ribs. It would be a very poor belly if it were not for the ribs. It may be asked, What about the diaphragm? He would admit it has something to do with the formation of the belly and of the chest as well, but what would the diaphragm be worth if it were not for the ribs? It would be simply useless. The greater part of the circumferent border of the diaphragm is connected with the ribs.

There is another important matter which may not have occurred to everyone, that the ribs are the princi-

pal sources of attachment of the fore extremities of the trunk. It is not so with the clavicle or collar-bone as found in the human subject. In the ox, horse, sheep, and dog the union is entirely of a muscular character. The strongest muscles that fix the fore extremities to the trunk are attached to the ribs—the serratus magnus as an example—and there are others.

Think what part the ribs play in respiration. It would be impossible to carry on respiration if it were not for the ribs. The muscles, of course, do the work, but they would be useless without the ribs. They are so arranged in position and their external surface so provided that they afford a considerable amount of surface for the attachment of the muscles of respiration. Many of the uneducated think that respiration is simply brought about by a lateral increase in the size of the chest. That is not so, for the ribs move in three directions at least. It is necessary not only to enlarge the chest from side to side, but also that it should be elongated. The anterior ribs are drawn forward the central ribs are pulled upwards and outwards, and the posterior ribs are pulled backwards and upwards. This is all brought about by muscular action, but muscular action would be absolutely useless unless the muscles were attached to some solid matter, some framework upon which they could act.

Another function of the ribs, though he had never heard it described or seen it written about, is the immense protection which the ribs give to the arteries called intercostal. After leaving the posterior aorta they gain the intercosta space at the upper part. The main trunk passes into, and is first found at the anterior part of the intercostal space, but runs across before it has gone down two inches, and is found at the back of the rib in front of it. It travels down to the lower extremity and as it passes gives off vessels to the ribs and the lining membrane of the chest. The main function of that artery is to reach the bottom of the chest, and at the junction of these with other arteries, the internal pectoral, the muscles of the belly are supplied to a very considerable extent; certainly one half of them are so supplied, and it was necessary that these vessels should be protected on their way, and are so by passing under the posterior border of the rib and there lodged almost secure from any possible injury. When the operation for hydrothorax, parencentesis, is performed care is taken that the trocar passes in front of the rib. Why? Because the artery is at the back of the rib and considerable injury might be done if the puncture were on that side of it. That seems a small function, but it is performed admirably by the ribs.

Diseases of the ribs, one may almost say fortunately, are not of frequent occurrence, and perhaps some practitioners do not believe in them, but he had seen some very funny cases of diseases of ribs. What happens most frequently is fracture. He had seen necrosis, exfoliation, abscess, and caries. He recollected a case of necrosis when he had charge of the infirmary at the College. A horse came in with a tumour on the outside of his chest. It evidently was an abscess, but did not ripen, as it is termed, and he came to the conclusion there was disease of the rib. He made up his mind to operate, and after some little trouble took out with a pair of forceps a portion of rib three inches or so long It was so thick there could not have been left behind more than half the substance of the rib itself. If this was not necrosis or death of the bone *en masse* he did not know what it was. He had also known ulceration of the heads of the ribs, and he had seen exfoliation where a portion simply came away like a leaf, but these cases are not met with every day.

No doubt the principal malady affecting the rib veterinary practitioners have to deal with is fracture. This is of two kinds, one where the animal is predisposed to it, and the other where it occurs through some accidental circumstance. In fracture of the bones of the horse generally there are predisposing causes, bo es where there is too little of lime matter, and where there is an excess of it. Fragilitis ossium in particular predisposes to fracture. Unless one has been in the habit of attending knackers' yards pretty frequently, he had little idea of how many cases of fracture of the ribs with recovery take place, the bone uniting and neither the attendant nor the owner suspecting that anything of the kind had happened. That is simple fracture. Unless this simple fracture has taken place to a very considerable extent, involving three or four ribs, it is a very difficult matter to diagnose. Even in the human subject, where a patient can explain all that he can feel, it is a difficult matter to diagnose fracture of one rib. It fell to his lot on one occasion, being thrown out of a trap, to have two extremities of the ribs broken away from the sternum, and his surgeon did not find it out for nearly a month and would not have found it out then but for some exostosis forming. Where two or three ribs are broken there is deformity of the side of the chest; it may be flattened, or worse, a hollow. Unless there are such indications it is very difficult to diagnose. Of course in a case of compound fracture where there is a wound it did not want much ability to diagnose.

One remark he would make about this. It is generally considered that once a hole is made in the chest it is a case of certain death. He also held this opinion for a number of years, because when he was young and at home a case came under his notice where a colt galloping in a field would go for a fence which a man was mending. The man lost his temper and threw at the animal the bill hook which he was using to trim the hedge. It struck the colt on the chest, penetrating it, but he galloped half across the field and then dropped down dead. This made such an impression upon his mind that he thought it impossible for the animals to live if the chest were opened to a y extent. He had seen a case since which proved the absolute contrary. He had seen a case where the atmosphere passed into the orifice and out again repeatedly and the animal recovered. The fact in the case he saw at home was that the horse was exhausted, and his respiration was going so terribly that when the opening was made, the rush of the atmosphere was so great it collapsed the lung and death took place almost instantaneously

In a case of simple fracture when there is no great amount of displacement there is nothing like a plaister, and he would use principally Stockholm tar. He did not believe in pitch because it was too brittle. Stockholm tar can be made a little thicker with some resin. Bandagi g is out of the question. If a bandage is used at all, he recommended a particular belt made to strap firmly upon the plaister. To bandage as is done on the human subject, in his opinion, was ridiculous. For a compound fracture where there is an opening into the chest the first thing, if called in soon enough, is to pass in one's finger and remove any spiculæ of bone, then to draw the ends of the bone as near as possible into their proper position, so to a considerable extent making it a simple fracture, then carefully close the orifice and proceed as in a case of simple fracture. Untoward symptoms may be due to pleurisy, which can be recognised by the ordinary indications. He remembered one case of fracture of the rib followed by an untoward result. It was a simple case in a horse which three months later became affected with pleurisy, and on an examination of the chest spiculæ of bone were discovered.

Ninety times out of a hundred fracture is due to external violence, and it is nearly always on one side of the chest. A horse does not get kicked on both sides of the chest at the same time. In the human subject it is very different. Through being in a crowd and being crushed a fracture on both sides is probable.

Concluding, Prof. Pritchard said I hope I have said

something to interest you, and if it has not been matter of information I hope I have awakened a few thoughts in your minds, and that you will give me just as good a dressing by discussion as you know how.

Discussion.

The Chairman said it was very important to bear in mind the formation of the chest, because they knew that without good chest capacity an animal was inferior incapacitated for work, and as a rule unsound. He remembered a very severe case where a tremendous collision had taken place. The shaft of a butcher's cart entered the side of a horse and broke three or four ribs. It took him something like three hours to remove the decayed gangrened flesh and necrosed bone. The pleura in this instance was distinctly perceptible for something like eight or nine square inches. It was marvellous that the horse recovered, but it was still alive and quite equal to its work. He was once called in consultation on a horse belonging to Sir William Rose that had a fistulous opening against one of the ribs. The metal of the probe struck against something very firmly. He had the horse cast, and after cutting lengthwise down the rib put in his finger and extracted a piece of rib. There was quite three-quarters of the rib substance detached from the rib which had settled down from the lower part of the rib and embedded in the substance of the chest. He treated it by passing a seton in the lower part of the opening, and the horse made a good recovery. He was once sent for to regulate the teeth of a five-year-old colt. He never saw a more remarkable mouth. In the upper jaw the molars were five-year-old teeth, but in the lower jaw the teeth were as long as pencils and as round as his finger, as if twenty years old. He did justice to the horse, and next day was surprised to learn it was dead. He went and saw it, turned it over, and found he had four ribs broken which had penetrated the lungs. He always regretted he did not secure the mouth ; it would have been a treasure for a museum.

Mr. Kitchen said the address of Prof. Pritchard was thoroughly practical, and it had taken them back to their student days. He had in many cases seen at post-mortems the fracture of one rib that had quite healed where he never dreamed of finding it.

Mr. Hammond said one of his colts got separated from some others and jumping at a door the snack penetrated his ribs, and this wound bore out what Professor Pritchard had said about air passing in and out of the chest. A piece of rib about an inch long was quite broken off, and the animal was so wild he had to be cast to cut this piece off. He had thought the colt must die, as the air kept passing in and out. He did nothing to the ends of the bone, and there was a large flap of skin, but he closed the wound with sutures and did not apply a plaister because it would have confined the discharge. All the treatment he gave was to put on a piece of spongio piline. The colt did well and he made a considerable sum for him, but an egg could have been laid in the depression of the ribs.

Mr. Mayall enquired what Prof. Pritchard's opinion was of dropped elbow, which it had been strongly asserted was due to fracture of the first rib. He thought very frequently it was not, and that there were several things which might cause it. He had seen it from rupture of the muscles at the back of the scapula, on the inner surface, from fracture of the first rib, and also from what was called radial paralysis, when the symptoms of dropped elbow have been very pronounced. After six weeks treatment a horse had recovered, but whether it was due to fracture he could not say as there was no post-mortem. He should think radial paralysis would not cause it. Severe injury to the flexor also produced alarming symptoms. The limb is flexed and the horse backs and drags the limb in such cases.

Prof. Pritchard said the next time Mr. Mayall saw a horse do this he should look for fracture. How many cases had recovered?

Mr. Mayall had had one.

Prof. Pritchard recollected a case brought to the College. The late Professor Spooner, Prof. Barwell, and himself were unable to say what it was. The only symptom and that was really a blinding one, was that there seemed to be a dropping of the shoulder blades. The horse was destroyed and they found a fracture of both first ribs on both sides about an inch below the head and tubercle. He had never seen such a fracture since. How could they look for fracture? If they got paralysis of the three headed muscle—triceps extensor brachia, and found it fixed into the point of the arm there were the very same symptoms. They should always look out for fracture if they found the symptom of dragging the foot when a horse was backed.

Mr. S. Smith enquired what treatment Prof. Pritchard would recommend for fracture of the first rib.

Prof. Pritchard said it was practically hopeless, but he would not give a hopeless diagnosis in the case of a valuable mare or stallion, though he should for a cart horse or hackney.

The Chairman proposed a vote of thanks to Prof. Pritchard for his useful and interesting address. This was seconded by Mr. S. Smith, and carried.

Prof. Pritchard said he was pleased that his little effort had met with the reception it had. It was a great pleasure to him to come down and meet old friends and pupils. He would always be pleased to see them at his own home, and try to make them as miserable as he knew how, and some of them would say not for the first time. (Laughter.)

Mr. F. M. Wallis proposed a vote of thanks to the President on the close of his year of office, and congratulated him on the way in which he had carried out his duties.

Mr. H. Buckingham seconded the vote, which was carried by acclamation.

The Chairman said he was prond to have filled the position and gratefnl for their appreciation. His year of office had had many pleasant associations. He thanked the members for the support they had given him, and hoped it would be just as heartily extended to his successor.

The annual dinner followed.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary general meeting was held at 10 Red Lion Square, W.C., on Thursday, March 1st., 1906. Mr. A. L. Butters, president, in the chair. There were present Messrs. E. Lionel Stroud, J. Willett, F. Willett, A. E. Willett, Fred. G. Samson, Sydney H. Slocock, James Rowe, R. Porch, L. Savournin, R. F. Wall, Prof. J. Macqueen W. R. Davis, Major E. R. C. Butler, W. Roger Clarke, Captain E. E. Martin, Percy S. Howard, A. R. Routledge, R. A. Philp, R. J. Foreman, Ainsworth Wilson, W. S. Mulvey, A. S. Leese, Jas. Douglas, W. Perryman, Wm. Hunting, W. Sherriff, Herbert King, Guy Sutton, W. L. Harrison, Prof. F. Hobday, P. W. D. Smith, and Hugh A. MacCormack, hon. sec. ; and as visitors : Messrs. D. Aitchison, J. Walker, G. H. Livesey, and Capt. H. M. Lenox-Conyngham.

The minutes of the previous meeting were taken as read and confirmed.

Correspondence.

Letters were read from Messrs. H. G. Simpson, and J. C. Coleman, also from Lieut.-Colonel Blenkinsop regretting their inability to be present.

Respecting Mr. Slocock's resolution *re* R.S.P.C.A. officers, communications were received from the following Societies promising support: Eastern Counties V.M.S., Midland Counties V.M.A., The V.M.A. of Ireland, and the R.V.Coll. M.A.

The PRESIDENT thought the replies were very satisfactory.

The SECRETARY read a letter from the Commissioner of Police of the Metropolis as follows: "With reference to your letter of the 22nd ultimo, I am directed by the Commissioner of Police of the Metropolis to acquaint you that it is not proposed at present to employ veterinary surgeons as Inspectors of horses used in public carriages."

Mr. MULVEY thought the matter might very well be put before the Council of the Royal College of Veterinary Surgeons. He asked the Secretary to read again the resolution which was passed.

The SECRETARY read the resolution:—"That this meeting desire to draw the attention of the Chief Commissioner of Police to the fact that decisions as to the fitness of horses working in licensed carriages is left to laymen instead of being entrusted to veterinary surgeons. These powers are even exercised in opposition to the certified opinions of veterinary surgeons."

Mr. MULVEY said frequently a horse was seen by a veterinary surgeon, and the owner told to work him, but a layman intervened and said the horse was to be taken home and not worked. The Council of the College ought to be asked whether they could not do something in the matter.

Mr. WILLETT endorsed Mr. Mulvey's remarks, the matter had occurred to him in the same way. He had recommended a horse for work, and it was necessary to send it to be passed at the local police station, with the result that it had been sent back. That happens many times. That was derogatory to the profession.

The resolution was carried.

The SECRETARY read a letter from the Yorkshire Veterinary Medical Society, and also resolutions passed *re* the appointing of a veterinary inspector for the City of Cardiff.

On the proposition of Capt. Martin, seconded by Mr. Mulvey, it was suggested to lay the letter on the table.

Mr. STROUD proposed an amendment, as he thought the veterinary surgeon should not take a subservient position under either the Medical Officer of Health or the Borough Engineer. "That a letter be sent to the Yorkshire Veterinary Society saying the Central Society has full sympathy with their resolutions, and that if any action be taken we shall be pleased to support them."

Mr. WILLETT seconded the amendment

Eleven voted in favour of Mr. Stroud's amendment, and nine against. The amendment was then put as a substantive motion, and carried.

ELECTION AND NOMINATIONS.

Mr. W. SHIPLEY, F.R.C.V.S., Great Yarmouth, was unanimously elected a Fellow of the Society.

Mr. TRANTER, Croydon; Mr. G. H. LIVESEY, Hove; and Captain COCHRANE, Woolwich, were nominated for Fellowship.

PARLIAMENTARY REPRESENTATION.

The PRESIDENT reminded the Fellows that it was decided at the special meeting held Feb. 15th, that two delegates be chosen for Parliamentary representation at this meeting.

Mr. HUNTING thought that before proposing any names for election it would be well to understand whether they were to be paid delegates, and if they attended once, whether they were to be paid the same amount as if they went 15 or 16 times, or would they be paid 15 attendances?

The PRESIDENT said he understood the feeling was that the matter of payment should be left to the Council of the Society. It was not yet known what would be done.

Mr. HUNTING said he thought members also would like to know what was to be done.

Mr. WILLETT said he understood the delegates would be required for one meeting, the next.

The PRESIDENT said that at the special meeting three resolutions were come to, and he would ask the Secretary to read them.

The SECRETARY read the resolutions.

Major BUTLER proposed, and Prof. Macqueen seconded, "That the following instructions be given to the delegates:

(1) That the terms of reference to the Committee be altered so as to prevent any definite action being taken without reference by the delegates to their respective societies.

(2) That the Committee shall, after having formulated their conclusions, approach the Royal College of Veterinary Surgeons and obtain their opinion on the question, and the means they consider necessary to promote the Parliamentary interests of the profession."

Mr. PERRYMAN proposed, and Mr. Upton seconded the following:—"That the delegates be instructed not to commit themselves to any expenditure of the funds of the Society without its previous sanction."

It was then agreed that the delegates to the Parliamentary Committee be the President and Mr. Porch.

"FISTULOUS WITHERS."

Resumed Discussion on Mr. W. R. Davis's Paper.

Mr. SAVOURNIN thought it was agreed that the condition of fistulous withers was far rarer now than years ago, perhaps because more care was now exercised. He asked whether Mr. Davis or any other member had heard of or seen the disease treated by a decoction of oak leaves. In some parts of the world, notably Central Europe, it was considered a specific. He believed the late Prof. Robertson had told his class about it, and had experimented with it.

Mr. JAMES ROWE said the nearest answer he could give to Mr. Savournin's question was that the tincture of poisoned oak was a remedy he had employed almost all his life as an embrocation for sprained fetlocks or sprains in the neck, and it had been very useful. He had no experience of it for open wounds.

Mr. D. AITCHISON said that after the war he had experience of operating on some 160 horses, and he had found nothing which could be called a specific for fistulous withers. The treatment was entirely surgical, removing the injured tissue, and using afterwards any antiseptic dressing. He believed no treatment by drugs or astringents was of use without operation.

Mr. DAVIS, in reply, commented on the long time during which the discussion had been continued, and regretted that now the end was in sight so little had been said that evening on the subject, which was one of great importance. Repeated postponements had caused all interest to be lost. His experience contrasted with that of Mr. Savournin, for he believed fistulous withers to be as common as ever. He had seen many cases of the kind in the last few years. He gathered that Professor Macqueen objected to the name—he regarded it as obsolete and thought it should be abolished. In *The Record* some time ago a correspondent used the name "sinuous wounds of the withers, the so-called fistulous withers." He regarded "fistulous withers" as a much less cumbrous title, and quite as applicable. He believed that external violence was the main cause of the trouble, as was generally agreed. Mr. Hunting expressed the belief that the cases he (Mr. Davis) quoted of infection from previously existing wounds were probably coincidences. He (Mr. Davis) had very little doubt that that

was correct, still he had noticed the same thing happen before and wished to ascertain whether others had observed it. Mr. Upton considered that tuberculosis, or glanders, or strangles might be a cause, but as nothing was put forward to corroborate such a bold statement it was scarcely worth considering. Nothing had been said during the discussion about botryomcyes as a cause of the condition. If that microbe were to be looked for he thought it would sometimes be found, especially in the pus in an early stage. With regard to treatment, Mr. Upton said he relied upon setons, and that gentleman did not seem to view the disease so seriously as most people did. He could not help thinking of Thackeray's "White Squall" and the Turk in the storm, who

"Called upon the Prophet,
And thought but little of it."

He (Mr. Davis) had tried setons, but found them to fail. That was not surprising when one remembered that the cause of the trouble was mostly a piece of necrotic tissue ; it would evidently be useless to trust entirely to setons until the necrotic bit was removed. Professor Almond had said that all that was necessary was to "clean and keep clean." Aphorisms were all right round that table or in a book, but when in practice one was confronted with a case with a swelling as large as a child's head, and pus discharging from two or three sinuous wounds or fistulæ, and the animal of such a temper that every time he was looked at he turned his "business end" towards one, aphorisms would not serve very well. Mr. Sheather appeared to have found a sovereign remedy in tincture of marigolds, but he (Mr. Davis) could not understand the attitude of mind towards drugs which enabled one to attach importance to that preparation for such a disease. Nothing was wanted in the way of drugs except reliable antiseptics. Mr. Hunting did not see why the incision should be made in the middle line ; but it was made there because from that position one could find readily the tissue most likely to be diseased, *i.e.*, the spines of the vertebra and the ligamentum nuchæ. Mr. Hunting also objected to stitching the wound. He (Mr. Davis) stitched the wound because he liked to get the tow, which he made into a tampon, into close contact with the diseased tissues. He thought the death and separation of the moribund tissue was determined by the pressure of that foreign body against it, and hence he stitched. Professor Macqueen's remarks showed him to be in agreement with much of what he (Mr. Davis) advanced as to treatment; that gentleman insisted upon the necessity of removing every piece of necrotic tissue. Of course that was the ideal thing to do, but there were many cases in which this would entail a great amount of cutting which, in his (Mr. Davis') experience was really not by any means always necessary. Remove loose pieces, open well up, give good drainage, and treat afterwards with antiseptics, and a healthy wound will in most cases result, even if all necrotic pieces have not been quite removed. The same could be said of scirrhous cord ; if a part of the diseased tissue were removed, the remainder deeply incised, and the parts treated with strong antiseptic, the condition would clear up of itself. Professor Macqueen was rather severe as to the way veterinary surgeons as a rule approached these cases in practice ; but while it might be easy for the Professor to do all that he felt ought to be done in his convenient surroundings, cases often happened in the country where one could not get assistance to put the animal down : and if the horse were not a valuable one, the proprietors themselves were not always willing to render all the assistance or take the trouble in dressing which was necessary.

Mr. A. E. WILLETT reminded the meeting that Sir John M'Fadyean had said that botryomyces were frequently found in fistulous withers.

"GENERAL ANÆSTHESIA IN HORSES."—By Capt. E. E. MARTIN, A.V.D., M.R.C.V.S. (The paper will be found at page 678.)

DISCUSSION.

Mr. PORCH complimented Captain Martin on his excellent paper, and expressed his agreement with most of its contents. He had found nothing better for inducing anæsthesia than the Carlisle muzzle, though he had also tried Cox's. He knew that some veterinary surgeons who operated a good deal preferred Cox's muzzle. He agreed that if air were excluded as much as possible, the horse would go off quicker, there would be less struggling, and recovery from it would be more rapid. Instead of a towel he used on ordinary sack on the muzzle ; and by that means most of the air could be excluded. He had not had much experience of any general anæsthetic other than chloroform, though he had tried the mixture, but found it less satisfactory. Captain Martin gave ten minutes as the usual time taken by the horse to go under in the first stage ; but his own view was that about half that time was nearer the average for the first stage, and that fifteen minutes would cover the whole process of anæsthesia. Captain Martin had been very successful in that he had had no deaths from anæsthesia. He (Mr. Porch) had seen four horses die under chloroform, but that did not amount to half per cent. The animals which he had seen die expired usually in the first two or three minutes, almost as soon as the chloroform was administered. If the chloroform had been administered some time, even where there was difficulty of breathing, the animal nearly always recovered.

One experience he had was as follows : An operation was being carried out by one surgeon in the presence of several other practitioners, one of whom warned the operator to be careful with the chloroform, but another said it did not matter, as a horse could not be killed by chloroform. In about three minntes one said the animal was dead, but another contradicted him. However, it was found to be dead, and the man who said a horse could not be killed by chloroform altered his opinion from that day. He agreed with Captain Martin that the expense of the anæsthetic should not be considered ; moreover, three ounces of methylated chloroform did not cost much. The infliction of pain was not justified for the sake of a few shillings. He agreed with the importance of having skilled assistance, but a man who had seen a horse thrown and chloroformed a few times was almost as useful as a skilled assistant. He (Mr. Porch) had a man who had seen operations done, but was not a skilled assistant, yet he knew exactly what to do.

Major BUTLER agreed with the essayist and those who had spoken in almost every particular, but he was sharply at issue as to the necessity of hermetically sealing the animal's breathing apparatus. Though he agreed as to the rapid administration of the drug, it did not seem necessary to asphyxiate the horse to produce a condition of general anæsthesia. If it were a good thing to totally exclude air it would be even better to administer CO_2 with the chloroform, for it would further lessen the time occupied. He could not resist the idea that the rapid death of the animal mentioned by Mr. Porch was due to asphyxiation not to chloroform poisoning. He believed any man who had seen many horses chloroformed would conclude that when reasonably administered it was an eminently safe anæsthetic for the horse, which animal stood that drug better than did any other, and did not as a rule suffer from unfortunate sequelæ.

Prof. HOBDAY said that practically he was in entire accord with Captain Martin's remarks, with one exception. The essayist said—and it was an idea which was always taught—that the horse could scarcely be despatched by chloroform if it was given in anything like a

rational manner. Until 15 months ago he (Professor Hobday) would have absolutely adhered to that view. But during the latter period he had had three horses die when chloroform was administered, and the deaths could be traced to the anæsthetic. They were all cases in which one would have thought anæsthesia was safe. One of those animals was the mare whose heart he brought to the last meeting. Of course it was found, on post-mortem, to be extensively diseased, and unfortunately the mare was not closely examined during life, but externally the animal seemed all right. Apparently the mare, when left, was recovering nicely from the operation, and appeared to be out of danger. She raised herself on her fore parts, but fell back and died about 20 minutes later. Cox's mask was used, and this he considered one of the handiest and safest for the administration of chloroform. He had seen numerous accidents with the Carlisle mask, and it seemed to him to cause semi-asphyxiation. He had also tried the sponge and towel, and had seen several accidents happen with them. The accident which Mr. Porch narrated occurred when the chloroform was so administered and at the time when he saw it being administered he had remarked that it was a rather dangerous method of giving chloroform, but one of the other practitioners said it was a perfectly safe method, and that a horse could not be killed by chloroform. Nine practitioners were present at the time, and the horse died with unexpected suddenness. The second case was that of a well-conditioned horse, a cryptorchid of about eight or nine years old. The operation had been done, and everything had passed off satisfactorily, and the chloroform mask had been removed for fully three or four or five minutes, when suddenly someone said the horse had ceased to breathe. The post-mortem did not show anything definite, and he could only attribute the death to the animal not having been fasted beforehand. It was not by his wish that the operation was done on that day, he had only been requested that morning to do it, and he knew a meal had been given about 12 o'clock. He had warned the owner of the risk due to that fact. Cox's mask was used. The third case was that of a five-year-old mare which was going to have ovariotomy performed. Everything seemed to be going well, and he remarked at the time how well she had gone under. He was washing his hands preparatory to the operation when he found she had stopped breathing, and all attempts at resuscitation failed. Again, Cox's muzzle was the one used. On post-mortem examination a fair number of old pleuritic adhesions were found, and some old adhesions on the liver. He then learned that a short time previously she had had influenza. He believed very much depended upon the care with which the anæsthetic was administered, and upon the anæsthetist. He preferred not to get the horse under too quickly, and in regard to time taken to get them under he had tried both methods. Four or five minutes should be allowed before pushing the chloroform ; he spoke from a large number of closely-recorded cases. He was not in accord with Capt. Martin in his remark that he had not seen death from asphyxia in the first stage. He had one case in which, although it was given very carefully, symptoms of asphyxia occurred, and the animal could not be brought back to life. He thought, also, that the risk of unfavourable sequelæ ought not to be too much minimised ; there was always a certain amount of risk in chloroforming. He had seen an animal die of pneumonia which was clearly attributable to the anæsthetic, and a few months ago he saw a case of choking after the administration of chloroform. The animal had been under chloroform 20 minutes, fairly deeply, and when at his manger he happened to catch up a piece of hay, and afterwards showed typical symptoms of choking, which lasted about an hour and then passed off. He agreed that respiration was the danger-signal to watch, and it was the function most difficult to restore.

A point which Captain Martin did not touch upon was the antidotal treatment. Everyone who gave chloroform, whether it was the hundredth or the thousandth case, should always have antidotes at hand. Of those he thought nothing was better than the old-fashioned strong ammonia, a bottle of prussic acid, and the hypodermic syringe ready charged with a full dose of it for use should the symptoms become dangerous.

Mr. SAVOURNIN wished to know how one could, with certainly, kill a horse or any other animal with chloroform. It was not unusual for the veterinary surgeon to be asked to do that, and he had refused because he was under the impression that it was a long and laborious process. He had a very vivid recollection of the first time he saw the Carlisle bag used. After it was put on he could see the animal was making violent efforts to breathe, and the leather sides of the bag were dilating and contracting with those efforts. He concluding then that it ought to be re-named "The Carlisle Suffocating Apparatus." The lungs had got to be filled, and he failed to see the use of trying to prevent it by mechanical means ; air must filter through something. The amount of chloroform vapour taken in could not be large, and could not replace the air to any great extent. For some years his sole experience in administering chloroform had been in severe cases of colic. Where there was great violence and but small chance of saving the animal, and he thought there was a twisted gut, he put a nosebag on and a chloroform sponge at the bottom and let the horse take its chance. Under such circumstances the animal was out of its misery for a time at all events, and he had been told by owners more than once that they were glad to know that their horse had not suffered all the time.

Mr. HUNTING said that if both nostrils of a horse were plugged with cotton wool he could be suffocated in a few minutes. Mr. Woodger some years ago related direct experiments in which he attempted to kill a number of horses by chloroform. He succeeded in each case, but never under 20 minutes. It was possible to find horses the condition of whose heart and lungs would facilitate death, or death might be induced by the operation, or by the chloroform. But when all three were combined there must be a certain amount of danger. There might be conditions in the horse which could not be diagnosed. When he said one could not kill a horse by chloroform, he meant not easily. The horse which he made a remark about was, he contended, killed by suffocation, not by chloroform. He was not surprised, because a rug and sponge were used, and the head was most effectually wrapped up in the rug. After Prof. Hobday's remarks he, Mr. Hunting, would be more cautious about using Cox's muzzle, which seemed to have been employed when those animals died under Prof. Hobday's superintendence. He had not himself seen a death when it was used, and had considered it the safest, as it certainly was the simplest. Still, he was not sure that partial suffocation was not a good thing, it seemed to cause the first struggles in inducing the narcosis. When using Carlisle's muzzle it was not uncommon to find, if the animal had been under any length of time, that the narcosis was deeper just after the removal of the mask than it had been at any stage of the operation. An authority had told him that operation under chloroform for scirrhous cord was one of the most dangerous which could be performed. Considerable loss of blood no doubt added to the danger. He had had no fatal case of the kind. Among the advantages derived from chloroform were painlessness for the horse and safety for the operator, as had been mentioned. But an important point was that both veterinary and other surgeons who could not operate without chloroform, could do first-class operations with it. There was room for argument

as to the disadvantages of chloroform. A country practitioner would say he could do so many cases one after another without chloroform, whereas if he had chloroform it would take longer. Some performed castration with the horse standing. He had not performed that athletic exercise, and he thought he was now too old to start acrobatic surgery. The horse might sit down on the ecraseur. One man gashed his own radial, another had a broken leg, another a broken arm, and there had been many accidents, which of course were not reported. The great advantage of the standing operation was to enable the young man to get in in front of the old one. He believed there was a great difference in the pain felt by animals and that felt by man; it was fair to take into consideration the mental condition. Years ago when he had toothache the dentist's brass plate used to cure it; and he believed the nigger in South Africa would receive 20 strokes with the "cat" and not wince, but a white man would suffer from it. An agricultural labourer would have three or four teeth drawn with less distress than a townsman would suffer in having one drawn, and especially the professional man. Prof. Hobday suggested having antidotes handy in case of accident, but was there any evidence that antidotes were of the slightest use? If ammonia under the nostrils did any good, could the animal be under anæsthesia? If it were under anæsthesia neither the knife nor ammonia would have any effect. Why should prussic acid injection have any effect in resuscitation? He believed a case was on record of water instead of prussic acid having exactly the same effect.

Mr. PORCH asked why Mr. Hunting thought one could asphyxiate a horse better by means of the Carlisle muzzle than with a Cox's.

Mr. HUNTING replied that it was because all air could be cut off by the Carlisle muzzle if it fitted the horse properly.

Prof. HOBDAY moved the debate stand adjourned.

Mr. HOWARD seconded the motion.

Prof. MACQUEEN proposed an amendment that the discussion be concluded at that meeting, and an extension of time should be granted.

Mr. HUNTING seconded the amendment, and it was carried, the meeting agreeing to sit for an extra half hour.

Prof. MACQUEEN thought Prof. Hobday was to be congratulated upon the modification of view which he had undergone in the last 15 months. If anyone in the profession was guilty of encouraging the belief that chloroform anæsthesia was free from danger, that gentleman was present. He (Prof. Macqueen) was convinced, after a long experience of chloroform in places where there was no extra risk from unskilled assistants, that there was a danger, and one sufficiently serious to be considered by everyone who resorted to general anæsthesia. A large number of operations could be carried out skilfully and satisfactorily with the patient in the standing position, in which chloroform was not indicated. All operations of importance should be performed under chloroform, but that necessitated casting the horse. He was convinced that horses did suffer inconvenience from chloroform anæsthesia. He felt sure there was such a thing as chloroform catarrh and sore throat, and occasionally pneumonia, not necessarily in the relation of cause and effect but through the agency of the anæsthetic. He had had cases of choking following anæsthesia, and had known other practitioners lose horses from food finding its way into the windpipe. There was always a danger of choking where anæsthesia had been prolonged. He had seen several horses die during operation while under the influence of chloroform; but he was not prepared to say whether they died partly from the operation, or altogether from the anæsthetic. Every operator, before thinking of doing an operation, should make a careful examination of his patient, in the same way as in the case of the human subject. There were horses which were not fit for any general anæsthetic. Mr. Hunting said he would tell the meeting some facts; he (Prof. Macqueen) would follow Mr. Hunting's lead. He knew nothing of Mr. Woodger's experiments as to the power of chloroform to kill, but he was in agreement with Mr. Hunting as to the interpretation of the result of rapid chloroform anæsthesia. He would undertake to kill with chloroform any horse in London in less than ten minutes. It might be called suffocation, but chloroform was the chief agent in bringing about the death. The horse was so loaded with chloroform vapour that it died. He had timed many horses in which death had taken place in five, six, and eight minutes. But the point at issue was not whether a horse could be killed by chloroform, but whether it was correct to say that because a horse died in consequence of rapid inhalation of chloroform, that death was due solely to the anæsthetic. His view was that the horse was killed by chloroform *plus* suffocation. The horse was cast and secured, and Cox's muzzle was fixed on the upper jaw. A large sponge was then heated and saturated with five to seven ounces of chloroform, and placed against the nostrils, then a towel was put into the free end of the bag. The sponge was recharged with another dose of chloroform, and the horse would be dead usually in six or seven minutes. A sceptic might say that what occured was suffocation *plus* anæsthesia, but it was due to a combination of those two, whichever was put first.

He knew one or two practitioners who constantly administered chloroform in the standing position, and he considered that, given a suitable paddock, free from obstructions and projections, there was no better method of administering chloroform. The horse should be kept moving in a circle until, having gradually lost control of his limbs, he sank to the ground and was secured in the ordinary way. Some veterinary surgeons applied that method to all horses, young and old. Every practitioner must occasionally meet with cases where there was some risk in throwing the horse down, and that risk could be avoided by chloroforming the horse standing. But he did not recommend it to anyone operating in a limited space. He regarded Cox's muzzle as the most convenient and the cheapest, and most easily applied. It also fitted more heads than did any other. He thought the best plan was to administer chloroform without intentional admission of air. It was not possible in ordinary practice to completely prevent the access of atmospheric air. Captain Martin mentioned a case of operation for schirrhous cord. He (Prof. Macqueen) maintained there were certain operations—of which scirrhous cord was one—particularly when the growth was large and the hæmorrhage free, where the employment of a general anæsthetic would nearly always result in the death of the horse, either immediately after the operation or in a few hours later. He could not help thinking that the horse which Captain Martin mentioned as showing symptoms of staggers was really affected with anæmia. He knew of several cases of large scirrhous cord where the horses never rose after the operation. The growths were very large and the bleeding excessive. A general anæsthetic was always risky where there was danger of much hæmorrhage. Under anæsthesia horses had died during operation and no internal disease was discovered post-mortem. He was convinced that chloroform anæsthesia was not unattended with danger. It was important to examine the patient before giving the anæsthetic. He preferred Cox's muzzle to any other.

The PRESIDENT mentioned that nothing had been said about the use of chloroform for mares in cases of malpresentation when foaling. He had himself no experience.

Mr. LIVESEY agreed with Captain Martin that a horse

should be cast before giving chloroform. He would like to see Professor Macqueen's method carried out; he thought it should certainly not be attempted with a horse of any value. He had knowledge of a case tried once in the South Coast by a man who was considered a good operator and had able assistance. He determined to chloroform the animal standing, and he did it in a large yard with a paddock at the end. Cox's muzzle was put on, and a large flat sponge soaked with chloroform was put in the end, then a couple of dusters, and the muzzle closed. In a few minutes the horse cleared the yard, and the same thing had not been attempted since by those who saw that performance. About 1901 a case of sudden death under chloroform was reported by Dr. Lionel Stretton, of the Kidderminster Infirmary. A horse had a nasty capped elbow, and Dr. Stretton desired to operate on it himself, but did not feel equal to chloroforming the animal, and called in a local veterinary surgeon. A sponge was saturated with chloroform and put on one of the nostrils, and a couple of towels wound round the head. He said in his report that he found no fault with the way the horse was cast, but felt it his duty to criticize the veterinary method of administering chloroform. He condemned methylated chloroform and, from his experience in anæsthetising human beings, concluded that putting a sponge on the nose and covering it up with towels and thereby excluding air, was courting danger. He (Mr. Livesey) thought chloroform could not be given too fast to the horse. Dr. Stretton's operation was commenced over the capped elbow, and after the first incisi n he was told the mare had ceased breathing. All efforts to resuscitate her were unavailing, and as there was no post-mortem made it was not known whether there was organic disease present. Death from shock under chloroform sometimes happened, but in human beings death seldom occurred from shock following major operations. That occurred mostly in minor operations, where perhaps anæsthesia was not very deep, and he did not see why the same should not apply to horses. With regard to antidotes, Mr. Hunting seemed to think prussic acid was no more useful than water. He had not used it for horses, but had employed it with success for dogs. In cases of failing heart's action he thought no better antidote was to be found than adrenaline chloride (Takamine). It had a most wonderful effect in raising blood pressure and overcoming collapse. He believed there was much difference in the degree to which pain was felt by the horse and by man. A horse with a broken leg would wander about a field shewing only little discomfort. But the human subject with a broken leg or arm suffered very severely on the slightest movement. He had been advised by several country practitioners never to give an animal chloroform for castrating, as it was supposed to court hæmorrhage. Though one could not have the animal quite so still, he believed that without chloroform cleaner surgery could be carried out.

The discussion was adjourned until the next meeting.

A hearty vote of thanks was passed to Mr. Davis for his paper on "Fistulous Withers."

A vote of thanks to the President concluded the meeting.

HUGH A. MACCORMACK, *Hon. Sec.*

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended Mar. 24		23	45			23	62			14	18	63
Corresponding week in	1905 .	27	46			21	64			30	14	219
	1904 .	23	33			42	65			35	19	91
	1903	18	27			25	36			25	37	198
Total for 12 weeks, 1906		240	534			260	479			236	208	904
Corresponding period in	1905 .	255	374			271	538			534	139	694
	1904 .	251	348			347	679			912	299	1789
	1903 ..	188	300			276	502			978	318	1459

Board of Agriculture and Fisheries, Mar. 27, 1906.

IRELAND. Week ended Mar. 17		..	..	..	..	..	..	..	..	2	2	28
Corresponding Week in	1905 ..	1	1	..	..	2	5	..	..	8	..	..
	1904 ..	..	..	..	..	..	..	..	..	15	2	76
	1903 ..	..	..	..	..	.	..	..	..	22	..	38
Total for 11 weeks, 1906		2	2	..	..	2	7	..	..	111	9	214
Corresponding period in	1905 ..	1	1	..	..	8	17	..	..	174	19	196
	1904 ..	1	1	..	..	2	9	..	..	275	45	631
	1903 ..	..	..	..	..	1	2	..	..	309	13	377

Epizootic Lymphangitis: Week ending Jan. 27, 1906, 1 case.

Department of Agriculture and Technical Instruction for Ireland, (Castle Street), Dublin, Mar. 22, 1906.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

SIR JOHN M'FADYEAN TESTIMONIAL.

The following subscriptions have been received since last acknowledgment:—

Mr. Henry Gray	42/-	Mr. Lepper & Sons	42/-
J. A. Thompson	21/-	S. E. Holmans	21/-
Prof. Woodruff	21/-	A. J. Down	21/-
Capt. Quinlan	20/-	Jno. McLean	10/6
Mr. L. M. Magee	21/-	Jas. F. Thurston	21/-
A. C. Smart	21/-	John Riddoch	20/-
A. P. Stewart	10/6	D. G. Davies	21/-

Subscriptions may be sent to—

W. HUNTING, *Hon. Sec. & Treas.*
16 Trafalgar Square, Chelsea, S.W.

Cruelty Cases in Dorset.

Albert Samuel Davis, of Stourpaine, was summoned for working a horse in an unfit state; and Ernest Gray, baker, of the same place, was summoned for causing the animal to be worked.

P.C. Read stated that he saw Davis driving the animal in a baker's cart at Stickland. As it was very lame he enquired of the defendant what the matter was, and he replied it was no business of his (witness). The animal was in poor condition, and utterly unfit for road work. Defendant refused to give his name until witness threatened to detain him. About three months previously he had cautioned another of Gray's employees about the condition of the animal.

Inspector Lale, R.S.P.C.A., said that when he went to see Gray, he told him he had sold the horse, but he refused to say where it was. Ultimately witness saw the animal. It was aged, and in very poor condition. It was lame in both fore feet. The fetlock on the near fore leg was very much overshot, and it had navicular disease in both front feet. The animal was totally unfit for any kind of work. Next day it was taken to the kennels.

Defendant said the animal started away from home all-right, but sometimes went lame whilst on a journey.

In reply to the Bench, Inspector Lale said he was not a qualified veterinary, but he had had to pass examinations before being sent out to do duty. He also stated that local veterinaries would not appear for the Society in their own districts, and he had to go a long distance away to obtain a veterinary to appear.

The Bench dismissed the charge against Davis, and fined Gray 1s. and 2s. 6d. costs.

Wilfred Pope, of Okeford, Fitzpaine, was similarly charged, but did not appear.

Inspector Lale, whose evidence was corroborated by P.C. Read, said the tendons of the animal's near fore leg were sprained. The animal was attached to a carrier's van, in which were two women and some farm produce.

Fined 10s. inclusive.

Personal.

STEWARD—HAVILL.—On the 14th inst. at Heavitree Parish Church, Exeter, Francis Victor Steward, M.R.C.V.S., third son of John Alfred Steward, J.P., The Fort Royal, Worcester, to Elsie Mary, second daughter of Albert Havill, South Wonford, Exeter.

ARMY VETERINARY DEPARTMENT.

Extract from *London Gazette*,
WAR OFFICE, PALL MALL, March 23.

IMPERIAL YEOMANRY.

Ayrshire (Earl of Carrick's Own).—Vet.-Lieut. R. W. Russell to be Vet. Captain.

NOMINATION FOR COUNCIL ELECTION.

The only addition to the list published in these pages on February 17th is the name of
DUCK, F. Col. A.V.D., Proposed by Sir John M'Fadyean.

CORRESPONDENCE.

GRUNTING IN HORSES.

Sir,

In your report of a recent law case, Prof. Macqueen's evidence contained the following assertion. "His own contention was *that grunting had no connection with the wind of a horse.*"

I trust that this opinion will not be generally accepted by the profession, if so, I am certain it will lead them into trouble.

I have the utmost respect for the Professor's opinion, but I am sure if he were in a private practice he would very soon find out that he was wrong. My own experience is that in 99 per cent of cases of "grunting" the horse either is, or will, very soon become unsound in wind.—Yours truly,

J. G. PARR,

TESTIMONIALS TO PATENT MEDICINES.

Sir,

I think when Veterinary Surgeons go to the trouble of giving testimonials to a firm who are evidently doing a very large trade in patent medicines, judging by the way in which they can afford to advertise, it is time something was done to check this sort of thing. Here is a firm making money which ought to be coming into our pockets, and a member of our profession applauding them. Enclosed cutting from "Our Dogs," March 24th, 1906.—Yours, etc.,

ANTI-QUACKERY.

G. A. M HARLE, Esq. (M.R.C.V.S.):
BULL PUPS. CURES EVERY TIME.
"I used your Ruby on four strong healthy Bull puppies 8 weeks old, **and truly it is wonderful, in all my experience I have never found a medicine so successful.** I am glad I tried it myself, and shall take every opportunity to recommend it.
February 25th, 1906.

RE PARLIAMENTARY REPRESENTATION.

Sir,

Although I do not regret Mr. MacCallum's proposal, which appears under the above heading in your current issue, as a practicable one, I am disposed to welcome his letter, as containing one of the very few definite suggestions which have yet been made for the attainment of an object which most Veterinary Surgeons would like to see an accomplished fact. For it must be admitted that the most prominent advocates of the so-called "scheme," have, so far, confined themselves to beatific visions of the—to their minds—certain benefits to be expected from direct veterinary representation in Parliament, have *not* ventured to advance any detailed proposals for the accomplishment of their object, and *have* persistently minimised—not to say evaded—the very real and substantial difficulties in the way. I think, therefore, that Mr. MacCallum deserves credit for having made *one* definite proposal, though his plan does not strike me as being a feasible one,

It sounds very tempting—the idea of the R.C.V.S. obtaining a permanent seat in Parliament, as many Universities have done—but is it *possible*? Can Mr. MacCallum tell us how the numerical strength of the graduates and undergraduates of those Universities compares with ours? I am sure he will admit that our influence with the powers that be would be small indeed in comparison with that wielded by the least important University in Great Britain. Again, does any legally recognised body of professional men possess, as a profession, direct Parliamentary representation similar to that of the Universities? If, as I think, no such body *does*—can the Government be expected to commence by conferring such a privilege upon one of the smallest professions—if not the very smallest, in the kingdom?

Finally, I think that Mr. MacCallum goes wrong in his concluding sentence, anent "not begging it as a favour, but demanding it as a right." If the influence of our profession in high places were strong enough, we might obtain privileges even beyond our rights. In default of such influence—has any body of men ever been successful in *demanding* a right, until they were strong enough to be within measurable distance of *taking* it?—Yours truly,

CRITICUS.

COMMUNICATIONS AND PAPERS RECEIVED.—Messrs. J. G. Parr, W. A. Dellagana, E. R. Gibson, W. Ascott, W. Bower, The Doctor Sahib, Anti-Quackery, Canine Practitioner.

The Illustrated Kennel News, Molassine Monthly. The Monaghan Northern Standard, The Kentish Express, The Anglo-Celt (Cavan).

Veterinary Societies Addresses.

Alterations for this list must be duly notified by the Secretaries

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